

APPENDIX F
Bacterial Analysis for Coliform Bacteria



MWH Laboratories
A Division of MWH Americas, Inc.

750 Royal Oaks Drive, Suite 100
Monrovia, California 91016-3629
Tel: 626 386 1100
Fax: 626 386 1101
1 800 566 LABS (1 800 566 5227)

Laboratory Report

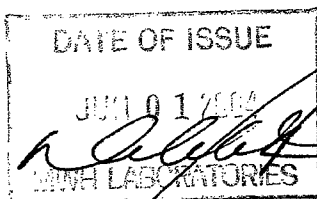
for

City of San Bernardino
Municipal Water Department

PO Box 710

San Bernardino , CA 92402

Attention: Con Arrieta
Fax: 909 384 5928



DEB Debbie Frank
Project Manager



Report#: 127570
ROUTINE-REX

Laboratory certifies that the test results meet all NELAC requirements unless noted in the Comments section or the Case Narrative. Following the cover page are Data Report, Hits Report, totaling 2 page[s].

Tel: 626-3861100 Fax: 626-386-1101

☐ TURNAROUND TIME _____
 DATE _____ PAGE _____ OF _____

METHODS

127570

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VOC Preservative = C6H806, 4C, HCL 2 drops, fix

MWH Laboratories
750 Royal Oaks Drive, Monrovia, CA 91016
PHONE: 626-386-1100/FAX: 626-386-1101

ACKNOWLEDGMENT OF SAMPLES RECEIVED

City of San Bernardino
Municipal Water Department
PO Box 710
San Bernardino, CA 92402
Attn: Con Arrieta
Phone: 909 377-3194

Customer Code: SANBERN-CA
Group#: 127570
Project#: ROUTINE-REX
Proj Mgr: Debbie Frank
Phone: 626 386-1149

The following samples were received from you on **05/24/04**. They have been scheduled for the tests listed beside each sample. If this information is incorrect, please contact your service representative. Thank you for using MWH Laboratories.

Sample#	Sample Id	Tests Scheduled	Matrix	Sample Date
2405250038	1 24' SOUTH BLOW OFF	@COLI-PA SPC	Water	24-may-2004 09:00:00
2405250039	2 24' NORTH EAST BLOW OFF	@COLI-PA SPC	Water	24-may-2004 08:52:00
2405250040	3 24' NORTH WEST BLOW OFF	@COLI-PA SPC	Water	24-may-2004 08:50:00

Test Acronym Description

Test Acronym	Description
@COLI-PA	Coliform, Pres/Absence, 24 Hours
SPC	Heterotrophic Plate Count
UCMCLFR	UCMR Free Chlorine Residual



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Laboratory
Hits Report
#127570

City of San Bernardino
Con Arrieta
Municipal Water Department
PO Box 710
San Bernardino , CA 92402

Samples Received
24-may-2004 15:30:00

Analyzed	Sample#	Sample ID	Result	UNITS	MRL
	2405250038	1 24' SOUTH BLOW OFF			
05/28/04		UCMR Free Chlorine Residual	0.6	mg/l	.010
	2405250039	2 24' NORTH EAST BLOW OFF			
05/28/04		UCMR Free Chlorine Residual	0.35	mg/l	.010
	2405250040	3 24' NORTH WEST BLOW OFF			
05/26/04		Heterotrophic Plate Count	1.0	CFU/ml	1.000
05/28/04		UCMR Free Chlorine Residual	0.3	mg/l	.010

SUMMARY OF POSITIVE DATA ONLY.



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Laboratory
Data Report
#127570

City of San Bernardino
Con Arrieta
Municipal Water Department
PO Box 710
San Bernardino , CA 92402

Samples Received
05/24/04

Prepared	Analyzed	QC Ref#	Method	Analyte	Result	Units	MRL	Dilution
1 24' SOUTH BLOW OFF (2405250038) Sampled on 05/24/04 09:00								
05/24/04	05/26/04 14:45		(ML/SM9215B)	Heterotrophic Plate Count	<1.0	CFU/ml	1.0	1
	05/28/04 18:14		(SM4500-CL G)	UCMR Free Chlorine Residual	0.6	mg/l	0.010	1
Coliform, Pres/Absence, 24 Hours								
05/24/04	05/25/04 17:52		(ML/SM 9223)	E. coli Bacteria	A	PA	0.0000	1
05/24/04	05/25/04 17:52		(ML/SM 9223)	Total Coliform Bacteria	A	PA	0.0000	1
2 24' NORTH EAST BLOW OFF (2405250039) Sampled on 05/24/04 08:52								
05/24/04	05/26/04 14:45		(ML/SM9215B)	Heterotrophic Plate Count	<1.0	CFU/ml	1.0	1
	05/28/04 18:14		(SM4500-CL G)	UCMR Free Chlorine Residual	0.35	mg/l	0.010	1
Coliform, Pres/Absence, 24 Hours								
05/24/04	05/25/04 17:52		(ML/SM 9223)	E. coli Bacteria	A	PA	0.0000	1
05/24/04	05/25/04 17:52		(ML/SM 9223)	Total Coliform Bacteria	A	PA	0.0000	1
3 24' NORTH WEST BLOW OFF (2405250040) Sampled on 05/24/04 08:50								
05/24/04	05/26/04 14:45		(ML/SM9215B)	Heterotrophic Plate Count	1.0	CFU/ml	1.0	1
	05/28/04 18:14		(SM4500-CL G)	UCMR Free Chlorine Residual	0.3	mg/l	0.010	1
Coliform, Pres/Absence, 24 Hours								
05/24/04	05/25/04 17:52		(ML/SM 9223)	E. coli Bacteria	A	PA	0.0000	1
05/24/04	05/25/04 17:52		(ML/SM 9223)	Total Coliform Bacteria	A	PA	0.0000	1



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Laboratory Report

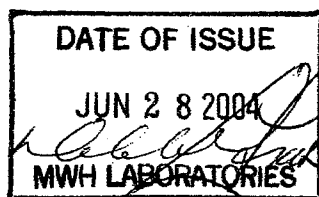
for

City of San Bernardino
Municipal Water Department

PO Box 710

San Bernardino , CA 92402

Attention: Con Arrieta
Fax: 909 384 5928



DEB Debbie Frank
Project Manager



Report#: 128391
SPECIAL

Laboratory certifies that the test results meet all **NELAC** requirements unless noted in the Comments section or the Case Narrative. Following the cover page are Data Report, Hits Report, totaling 2 page[s].

Tel: 626-3861100 Fax: 626-386-1101

TURNAROUND TIME _____
 DATE PAGE OF

METHODS

[illegible]

MWH Laboratories
750 Royal Oaks Drive, Monrovia, CA 91016
PHONE: 626-386-1100/FAX: 626-386-1101

ACKNOWLEDGMENT OF SAMPLES RECEIVED

City of San Bernardino
Municipal Water Department
PO Box 710
San Bernardino, CA 92402
Attn: Con Arrieta
Phone: 909 377-3194

Customer Code: SANBERN-CA
Group#: 128391
Project#: SPECIAL
Proj Mgr: Debbie Frank
Phone: 626 386-1149

The following samples were received from you on **06/08/04**. They have been scheduled for the tests listed beside each sample. If this information is incorrect, please contact your service representative. Thank you for using MWH Laboratories.

Sample#	Sample Id	Tests Scheduled	Matrix	Sample Date
2406090006	1 12" PIPELINE NORTH EAST PORT	Water		08-jun-2004 14:20:00
	@COLI-PA SPC	UCMCLFR		
2406090007	2 12" PIPELINE SOUTH WEST PORT	Water		08-jun-2004 14:25:00
	@COLI-PA SPC	UCMCLFR		

Test Acronym Description

Test Acronym	Description
@COLI-PA	Coliform, Pres/Absence, 24 Hours
SPC	Heterotrophic Plate Count
UCMCLFR	UCMR Free Chlorine Residual



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Laboratory
Hits Report
#128391

City of San Bernardino
Con Arrieta
Municipal Water Department
PO Box 710
San Bernardino , CA 92402

Samples Received
08-jun-2004 17:10:00

Analyzed	Sample#	Sample ID	Result	UNITS	MRL
	2406090006	1 12" PIPELINE NORTH EAST PORT			
06/10/04		Heterotrophic Plate Count	1.0	CFU/ml	1.000
06/08/04		UCMR Free Chlorine Residual	0.4	mg/l	.010
	2406090007	2 12" PIPELINE SOUTH WEST PORT			
06/10/04		Heterotrophic Plate Count	1.0	CFU/ml	1.000
06/08/04		UCMR Free Chlorine Residual	0.2	mg/l	.010

SUMMARY OF POSITIVE DATA ONLY.

Hits Report - Page 1 of 1



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Laboratory
Data Report
#128391

City of San Bernardino
Con Arrieta
Municipal Water Department
PO Box 710
San Bernardino , CA 92402

Samples Received
06/08/04

Prepared	Analyzed	QC Ref#	Method	Analyte	Result	Units	MRL	Dilution
1 12" PIPELINE NORTH EAST PORT (2406090006) Sampled on 06/08/04 14:20								
06/08/04	06/10/04 14:45		(ML/SM9215B)	Heterotrophic Plate Count	1.0	CFU/ml	1.0	1
	06/08/04 00:00		(SM4500-CL G)	UCMR Free Chlorine Residual	0.4	mg/l	0.010	1
Coliform, Pres/Absence, 24 Hours								
06/08/04	06/09/04 17:50		(ML/SM 9223)	E. coli Bacteria	A	PA	0.0000	1
06/08/04	06/09/04 17:50		(ML/SM 9223)	Total Coliform Bacteria	A	PA	0.0000	1
2 12" PIPELINE SOUTH WEST PORT (2406090007) Sampled on 06/08/04 14:25								
06/08/04	06/10/04 14:45		(ML/SM9215B)	Heterotrophic Plate Count	1.0	CFU/ml	1.0	1
	06/08/04 00:00		(SM4500-CL G)	UCMR Free Chlorine Residual	0.2	mg/l	0.010	1
Coliform, Pres/Absence, 24 Hours								
06/08/04	06/09/04 17:50		(ML/SM 9223)	E. coli Bacteria	A	PA	0.0000	1
06/08/04	06/09/04 17:50		(ML/SM 9223)	Total Coliform Bacteria	A	PA	0.0000	1



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Laboratory Report

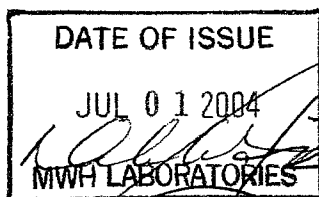
for

City of San Bernardino
Municipal Water Department

PO Box 710

San Bernardino , CA 92402

Attention: Con Arrieta
Fax: 909 384 5928



DEB *[Signature]* Debbie Frank
Project Manager



Report#: 128620
SPECIAL

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MWH Laboratories
750 Royal Oaks Drive, Monrovia, CA 91016
PHONE: 626-386-1100/FAX: 626-386-1101

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City of San Bernardino
Municipal Water Department
PO Box 710
San Bernardino, CA 92402
Attn: Con Arrieta
Phone: 909 377-3194

Customer Code: SANBERN-CA
Group#: 128620
Project#: SPECIAL
Proj Mgr: Debbie Frank
Phone: 626 386-1149

The following samples were received from you on **06/11/04**. They have been scheduled for the tests listed beside each sample. If this information is incorrect, please contact your service representative. Thank you for using MWH Laboratories.

Sample#	Sample Id	Tests Scheduled	Matrix	Sample Date
2406110196	1 12" PIPELINE NORTH E PORT	@COLI-PA SPC	Water	11-jun-2004 10:37:00
		UCMCLFR		
2406110198	2 12" PIPELINE NORTH W PORT	@COLI-PA SPC	Water	11-jun-2004 10:36:00
		UCMCLFR		
2406110199	3 12" PIPELINE NORTH S PORT	@COLI-PA SPC	Water	11-jun-2004 10:30:00
		UCMCLFR		

Test Acronym Description

Test Acronym	Description
@COLI-PA	Coliform, Pres/Absence, 24 Hours
SPC	Heterotrophic Plate Count
UCMCLFR	UCMR Free Chlorine Residual



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Laboratory
Hits Report
#128620

City of San Bernardino
Con Arrieta
Municipal Water Department
PO Box 710
San Bernardino , CA 92402

Samples Received
11-jun-2004 15:51:16

Analyzed	Sample#	Sample ID	Result	UNITS	MRL
	2406110196	1 12" PIPELINE NORTH E PORT			
06/11/04	UCMR Free Chlorine Residual		0.4	mg/l	.010
	2406110198	2 12" PIPELINE NORTH W PORT			
06/11/04	UCMR Free Chlorine Residual		0.4	mg/l	.010
	2406110199	3 12" PIPELINE NORTH S PORT			
06/11/04	UCMR Free Chlorine Residual		0.5	mg/l	.010

SUMMARY OF POSITIVE DATA ONLY.



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Laboratory
Data Report
#128620

City of San Bernardino
Con Arrieta
Municipal Water Department
PO Box 710
San Bernardino , CA 92402

Samples Received
06/11/04

Prepared	Analyzed	QC Ref#	Method	Analyte	Result	Units	MRL	Dilution
1 12" PIPELINE NORTH E PORT (2406110196) Sampled on 06/11/04 10:37								
06/11/04	06/13/04 13:45		(ML/SM9215B)	Heterotrophic Plate Count	<1.0	CFU/ml	1.0	1
	06/11/04 00:00		(SM4500-CL G)	UCMR Free Chlorine Residual	0.4	mg/l	0.010	1
Coliform, Pres/Absence, 24 Hours								
06/11/04	06/12/04 14:36		(ML/SM 9223)	E. coli Bacteria	A	PA	0.0000	1
06/11/04	06/12/04 14:36		(ML/SM 9223)	Total Coliform Bacteria	A	PA	0.0000	1
2 12" PIPELINE NORTH W PORT (2406110198) Sampled on 06/11/04 10:36								
06/11/04	06/13/04 13:45		(ML/SM9215B)	Heterotrophic Plate Count	<1.0	CFU/ml	1.0	1
	06/11/04 00:00		(SM4500-CL G)	UCMR Free Chlorine Residual	0.4	mg/l	0.010	1
Coliform, Pres/Absence, 24 Hours								
06/11/04	06/12/04 14:36		(ML/SM 9223)	E. coli Bacteria	A	PA	0.0000	1
06/11/04	06/12/04 14:36		(ML/SM 9223)	Total Coliform Bacteria	A	PA	0.0000	1
3 12" PIPELINE NORTH S PORT (2406110199) Sampled on 06/11/04 10:30								
06/11/04	06/13/04 13:45		(ML/SM9215B)	Heterotrophic Plate Count	<1.0	CFU/ml	1.0	1
	06/11/04 00:00		(SM4500-CL G)	UCMR Free Chlorine Residual	0.5	mg/l	0.010	1
Coliform, Pres/Absence, 24 Hours								
06/11/04	06/12/04 14:36		(ML/SM 9223)	E. coli Bacteria	A	PA	0.0000	1
06/11/04	06/12/04 14:36		(ML/SM 9223)	Total Coliform Bacteria	A	PA	0.0000	1

	Colilert	HPC	MTF	Density
Samples Read By:	P.N.	P.N.		
Date/Time Read:	7/17/04 12:00	7/18/04		